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TITLE: IMAGE PROCESSING DEVICE AND IMAGE PROCESSING DISTANCE-MEASURING METHOD

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ABSTRACT:

PROBLEM TO BE SOLVED: To accurately measure a distance by **extracting each edge** component from each photographed image to create a projection drawing, corresponding each edge line extracted corresponding to each peak position to determine a combination candidate, and determining parallax.

SOLUTION: Right and left cameras 1, 2 are simultaneously photographed by one shot by a simultaneously generating circuit 6, and right and left images are stored on image memories 7, 8 by image input means 4, 5. **Edge extracting** means 10, 11 create contour lines based on concentration differences in the right and left images, a space filtering is provided to take out a vertical edge component, and this is projected on the X-axis to generate a projection drawing. A peak capable of matching is suitably selected from peaks of the projection drawing considering a threshold, an adjacent **edge interval,** and sharpness, and right and left edge-line images are created using the peak **value** as a length of the edge lines. A matching process is performed for the

right
and left edge- line images, and each parallax is determined based on a provided
combination candidate. A distance is calculated on the basis of each parallax,
and an obstacle recognizing means 13 determines an obstacle.